

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | | |
|--|--|--|--|
| Applicant's or agent's file reference RD25877/24528 | FOR FURTHER ACTION | | See Notification of Transmittal of International Preliminary Examination Report (PCT/IPEA/416) |
| International application No. PCT/US97/16812 | International filing date (day/month/year) 22/10/1997 | Priority date (day/month/year) 22/10/1997 | |
| International Patent Classification (IPC) or national classification and IPC C22B9/18 | | | |
| Applicant GENERAL ELECTRIC COMPANY et al. | | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|---|
| Date of submission of the demand 15/05/1998 | Date of completion of this report 23.10.98 |
| Name and mailing address of the IPEA/  European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465 | Authorized officer Bergman, L Telephone No. (+49-89) 2399-8443  |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US97/16812

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-12 as originally filed

Claims, No.:

1-17 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US97/16812

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|------|--------|-----------------|
| Novelty (N) | Yes: | Claims | 6-10,13,17 |
| | No: | Claims | 1-5,11,12,14-16 |
| Inventive step (IS) | Yes: | Claims | 17 |
| | No: | Claims | 6, 8-10, 13 |
| Industrial applicability (IA) | Yes: | Claims | 1-17 |
| | No: | Claims | |

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US97/16812

1. Cited prior art:

D1 = Titanium'95: Science and Technology, p. 1486-1493

2. D1 discloses electro slag remelting (ESR) of titanium for high performance applications under halide fluxes, in particular CaF_2 . Test was first made with pure CaF_2 , whereas in subsequent work some additions were made to the CaF_2 slag. The material produced had in some cases lower nitrogen content than the ingot and in all cases lower oxygen content, cf. D1, p. 1486, 1488 (Ingot 4).

Accordingly, the subject matter of claims 1-5, 11, 12, 14-16 is known from D1. Said claims are objected to for lack of novelty. Regarding claim 16 is to be noted that the product has to be novel and inventive per se independent of its process of production.

3. Claim 17 is regarded novel and inventive.

4. The subject matter of claim 6 lacks an inventive step since at very low contents of Ca (e.g. 1ppm) no effect can be expected. The process features defined in claims 9, 10 and 13 appears common in the art and does not add inventive subject matter to claim 1. It appears that the subject matter of claim 8 may also apply to D1 such that it does not add inventive subject matter.

5. The subject matter of claim 7 is not known from D1 since there is not stated which additions were made. Accordingly, said feature is novel. However, from the application it appears that said feature alone is not sufficient for achieving the desired dissolution of nitrogen-rich inclusion but that also the features of claim 17 are essential for said dissolution. Accordingly, claim 7 lacks in clarity and is not regarded inventive.